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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,310	12/11/2001	Ritesh P. Shah	32120-CON1	4218

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WELLS ST. JOHN P.S.  
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SPOKANE, WA 99201

EXAMINER

ZHENG, LOIS L

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/014,310	<b>Applicant(s)</b> SHAH ET AL.	
	<b>Examiner</b> Lois Zheng	<b>Art Unit</b> 1742	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 8 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 32-40, 42-43, 47-55, 57-58, 61, 68-75 and 83 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-40, 42-43, 47-55, 57-58, 61, 68-75 and 83 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Status of Claims*

1. Claims 32-40, 42-43, 47-55, 57-58, 61, 68-75, and 83 remain for examination.
2. The indicated allowability of claims 32-37, 42-43, 47-52, 57-58, 68-72 and 74-75 is withdrawn in view of the newly discovered reference(s) to Klose et al DD 284,905 A5 (Klose). Rejections based on the newly cited reference(s) follow.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 83 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In the remarks filed 9 January 2004, applicants asserted that from Fig. 4 of the specification of the center peak intensity occurring at the three vertices of the quarter-circle diagram is 17.16 random. However, there is no support in the record to extend 17.16 random to any value as amended in claim 83(i.e. "at least about 17 random).

Therefore, the claimed "at least about 17 random" would be considered to be new matter.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 32-40, 42-43, 47-55, 57-58, 61 and 68-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klose

Klose discloses a tantalum alloy comprising 99.7-99.97 wt% of tantalum having a uniform re-crystallized texture with {100} plane parallel to the rolling plane and having an average grain size of 0.008 – 0.02 mm(i.e. 8-20 $\mu$ m) (abstract).

With respect to claims 32, 36, 47, 51, 68, 69, 73 and 74 of the instant invention, the disclosed tantalum purity of 99.7 – 99.97 wt% of Klose overlaps the claimed at least 99.95 wt% tantalum purity of the claimed invention. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed at least 99.95 wt% tantalum purity range from the disclosed range of Klose would have been obvious to one skilled in the art since Klose teaches the same utilities in its' disclosed purity range for tantalum alloys.

However, Klose discloses that the tantalum alloy is a sheet or a strip (abstract), which differs from the claimed tantalum alloy shapes such as disc(i.e. thin, circular

plate), plate, target blank, sputtering target, as-rolled target, as recited in claims 32, 47, 68, 69 and 74 respectively.

The sheet or the strip of Klose can be used as a sputtering target or an as-rolled target. Furthermore, the shape of the claimed tantalum alloy was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular shape of the claimed tantalum alloy was significant. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Please see MPEP 2144.04(IV).

With respect to claims 33, 34, 37, 38, 40, 42, 43, 48, 49, 52, 53, 55, 57, 58, 61, 71, 72 and 75 of the instant invention, Klose does not explicitly disclose that the average grain size of the tantalum alloy is about  $25\mu\text{m}$  and the maximum tantalum grain size of less than  $50\mu\text{m}$ .

Klose teaches that the average grain size of tantalum alloy is  $0.02\text{mm}$  (i.e.  $20\mu\text{m}$ ), which is close to about  $25\mu\text{m}$ . It is well settled that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Please see MPEP 2144.05(I). In this case, since the claimed about  $25\mu\text{m}$  tantalum grain sized of the instant invention is close to the  $20\mu\text{m}$  grain size of Klose's tantalum alloy, one skilled in the art would have expected them to have the same properties.

Furthermore, because the average grain size of Klose's tantalum alloy is as small as  $0.008 - 0.02\text{mm}$  (i.e.  $8-20\mu\text{m}$ ), the claimed maximum grain size of less than  $50\mu\text{m}$

Art Unit: 1742

would have been highly expected to be met by the tantalum grains of Klose. It is noted that applicants have not shown the criticality of "the maximum tantalum grain size of less than 50 $\mu$ m" in the record. It is the examiner's position that the claimed tantalum alloy would not be patentably distinct from Klose's tantalum alloy with the same purity, same crystallization texture and similar average grain size.

With respect to claims 35, 39, 50, 54 and 70 of the instant invention, the phrase "produced from a frictionless forged billet" is construed as a process limitation. The claimed product appears to be the same or similar to that of Klose although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. Please see MPEP 2113.

With respect to claims 37, 43, 52, 58, 71 and 75, the claimed average grain size of less than 50 $\mu$ m at the disc or target surface or throughout the thickness was met by Klose(i.e. 8-20 $\mu$ m). See MPEP 2144.05.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 38-40, 53, 55, 61, 73 and 83 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

Art Unit: 1742

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LLZ

ROY KING   
SUPERVISORY PATENT EXAMINER  
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